

REMARKS

Reconsideration is respectfully requested in view of the above amendments and following remarks. Prior to entry of this Amendment, claims 1-7, 12-22 and 24-38 are pending, with claims 24-33 withdrawn from consideration. Claims 1-7, 13-22 and 34-38 are rejected. Claim 12 is objected to.

With entry of this Amendment, Claims 1-5, 7, 13-19, 22, 24- 29, and 32 are pending, with claims 24- 29, and 32 withdrawn. Claims 1, 7, 14, 22, 24, and 32, are hereby amended to incorporate the allowable subject matter of claim 12. Claims 6, 8-12, 20-21, 23, 30, 31, 33, and 34-38 have been canceled without prejudice or disclaimer. No new matter has been added.

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 12 depends from claim 1. Claim 1 is amended to incorporate all the limitations of claim 12. Applicants assert claim 1 as amended is now allowable. Claims 7, 14, 22, 24, and 32 are similarly amended. Applicants assert the claims are now allowable.

The present invention is directed to a grout for making watertight screens where the grout has a dual function. The grout is used as a drilling fluid and it is used as a hardening (setting) material that ensures watertightness, where the setting of the grout is carried out without the addition of retarders. The grout must stay in a liquid state during the time needed for perforation, which can range between 5 and 8 hours, or even longer in the case of deep screens. These properties for the grout are achieved by using a blast furnace slag having a maximum grain size of between 50 μm and 100 μm , where the grout cement/water ratio is between 0.1 and 0.25. Example 1 of the present invention shows the importance of the maximum grain size of the slag. If the slag is too fine, 40 μm , a retarder must be used. If the slag is too coarse, 120 μm , an accelerator must be used.

Claim rejections - 35 U.S.C. § 102

Claims 1-5, 7, 13-19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Cowan et al. (US 5,343,952). Applicant respectfully traverses the rejection.

Claim 1 is directed to a grout for watertight screens. The grout consists of water, a natural or modified clay, a blast furnace slag having a maximum grain size between 50 μm and 100 μm and a Portland cement activating agent. The grout has a cement/water ratio of between 0.1 and 0.25.

Claim 14 is directed to an excavation fluid. The excavation fluid comprising a grout consisting of water, a natural or modified clay, a blast furnace slag having a maximum grain size between 50 μm and 100 μm , and a Portland cement activating agent. The grout has a cement/water weight ratio between 0.1 and 0.25.

Claim 1 is amended to incorporate the limitations of allowable claim 12 directed to Portland cement as an activating agent. Claim 14 is amended to incorporate Portland cement as an activating agent.

Cowan does not teach Portland cement as an activating agent. Thus, Cowen fails to anticipate claims 1, 14, and claims 2-5, 7, 13-19, and 22, depending therefrom. Withdrawal of the rejection is respectfully requested.

Claims 14-15, 18-19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hale et al. (US 5,361,842). Applicant respectfully traverses the rejection.

Hale teaches a drilling fluid comprising water, blast furnace slag, a silicate and a retarder. The fluid is activated to produce a cement can comprise various additives such as clay. Hale teaches away from the present invention by including a retarder in the fluid, which Hale indicates is necessary. The claimed properties for the grout of claim 14 are achieved by using a blast furnace slag having a maximum grain size of between 50 µm and 100 µm. Example 1 of the present invention shows the importance of the maximum grain size of the slag, if the slag is too fine, 40µm, a retarder must be used. Independent claims 1 and 14 utilize "consisting of" to reflect omission of retarder from the claimed grout. Thus, Hale does not anticipate claims 14 and claims 16-19, and 22 depending therefrom. Withdrawal of the rejection is respectfully requested.

Claims 14-15, and 18-19, are rejected under 35 U.S.C. 102(b) as being anticipated by Rae et al. (US 5,447,197). Applicant respectfully traverses the rejection.

Rae teaches a storable, hydraulically-active, cementitious slurry made from a hydraulically-active cementitious material such as ground granulated blast furnace slag. The slurry further comprises a set retarder, which is necessary to prevent the setting of the slurry during storage. Rae teaches away from the present invention by including a retarder in the slurry. As discussed above, claim 14, is directed to "grout consisting of" to reflect omission of retarder from the claimed grout. Thus, Rae does not anticipate claim 14 and claims 15, and 18-19 depending therefrom. Withdrawal of the rejection is respectfully requested.

Withdrawn claims 24- 29, and 32 are directed to a method of using the grout of claim 1 for forming a watertight screen. Claims 24 and 32 are amended to incorporate all the limitations of allowable claim 12, now found in amended claim 1. Applicants respectfully request rejoinder of the method of use claims in light of the allowability of the article claims.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions or concerns regarding this communication can be directed to the undersigned attorney, John J. Gresens, Reg. No. 33,112, at (612) 371.5265.

Respectfully submitted,
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